

Exploring the Environmental Attitude - Green Purchasing Intention Gap in Vietnam

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ABSTRACT: Global warming and environmental problems raise people's environmental concerns and heighten their environmental responsibility in their purchasing. While a number of researchers see environmental attitude as the best predictor of green purchase intention, there are evidence of that shows disparity between environmental attitude and purchase intention. Many people claim pro-environment but fail to act on them because of various reasons. The present study intent to investigate the environmental attitudes-green purchase intention gap under the influence of several moderating factors. Results shows that environmental involvement, willingness-to-pay more as well as the promotion of governments and enterprises and the availability of green products significantly affect the attitude-intention relationship. Specifically, perceived consumer effective-ness as a strong predictor of green purchase intention, fail to affect the influence of environmental attitude to green purchase intention. Research findings are expected to enable firms to understand Vietnamese consumers by identifying factors that influence their green purchase behaviour.

KEYWORDS:Green purchase intention; Environmental Attitude; Perceived Consumer Effective; Willingness-to-Pay More; Environmental Involvement; External Moderators.

I. INTRODUCTION

Green consumption is gaining popularity in Vietnam. Recent high levels of economic growth have led to increasing environmental damage in Vietnam. Such as de-forestation, resource depletion, and environment pollution are particularly visible manifestation of these environmental impacts, leading to possible future serious cli-mate change

[1]. As a consequence, protecting the environment has become an increasingly important task for not only policy-makers but also the general public [2]. As a result, given the state of extreme environmental impact, Vietnamese consumers should soon be aware of their role in environment protection and change their purchasing habits. Green purchasing is recommended to help better the environment. Interest in Vietnamese consumers' green purchasing and consumption behaviour have emerged as essential research topics. Today's young Vietnamese consumers are on emerging market for the green industry in the next decade and beyond [3]. However, the question is whether the young Vietnamese consumers have any concern regarding environmental problems and know what they should do to protect the environment by practicing daily activities such as green consumption and purchasing. This study focuses on exploring the moderating effects of internal factors such as perceived consumer effectiveness, willingness-to-pay more, environmental involvement, and external factors such as government and enterprise promotion, and the availability of green products. To find out whether the effect of environmental attitudes on green purchase intention will be stronger with higher degrees of willingness to pay more, perceived consumer effectiveness, willingness to pay more, environmental involvement and external moderators or not. The purposes of the study are:

1. To investigate the relationships among young Vietnamese consumers' internal factors including environmental attitude, willingness-to-pay more, environmental involvement, perceived consumer effectiveness and the external factors including government and enterprise promotion and the

availability of green products, and their intention to purchase green product.

2. To test the moderating effect of internal factors including perceived consumer effectiveness, willingness to pay more, environmental involvement and external factors including government and enterprise promotion and the availability of green

II. LITERATURE REVIEW

The green gap phenomenon is mostly related to the theory of planned behaviour (TPB)[4]. In addition to TPB, other theories, such as the Attitude-Behaviour-Context Theory, the Value-Belief-Norm Theory, and Social Exchange Theory have been used to examine the green gap[5].

2.1. Green Consumption

Green consumers are those who are aware of and interested in environmental issues [6]. The goal of green marketing is bringing environment issue into marketing. If we can make consumers consider that information of environment protection during their decision process, we can push enterprises to produce more environmental friendly products. Renfro [7] defined green consumers as the consumers who support businesses that operate in environmental friendly ways. In addition, green consumers are also concerned about how green are the products they purchased. Polonsky [8] de-fined green products as products which are typically non-toxic, made from recycled materials, or minimally packaged. In general, green products are known as ecological products or environmental friendly products that have less of an impact to the environment. According to Mishra and Sharma [9], green products and environmental products are business terms that are used commonly to describe products which consist of original grown, recyclable and reusable, contain natural ingredients, contain re-cycled content, do not pollute the environment, contain chemical of approval and not tested on animals.

Programs and events held by companies encourage customer to be environmentally friendly. One of those programs is the promotion of green shopping bags. Co-op-mart, Metro and some other supermarkets encourage shoppers to use reusable shopping bags instead of unrecyclable nylon counterparts. The campaign included TV Advertising, point of sale marketing (POSM), and internet viral marketing [10].

Vietnamese government encourages firms to integrate green production and operation in their businesses. The Vietnamese government issued Decision 450/QD-TTg to promote environmental protection to 2030 with a vision to 2030 [1,2]. Large

products on the relationship between environmental attitude and green purchase intention.

Related green product industries could benefit from the study findings by developing customized marketing strategies to better meet the expectation of young Vietnamese consumers.

international companies such as Panasonic, Honda, Unilever, and Daikin have engaged in green marketing activities. However, few Vietnamese companies have begun to do so. "Go Green" was a collaborative effort among Toyota Vietnam, Vietnam Environment Administration and Ministration of Education and Training, to educate the public and businesses on environmental issues. Although the program was considered to be very meaningful and practical, the awareness of the program required a significant increase [1,10].

2.2. The Young Vietnamese Customer

According to the 2019 Viettrack Marketing Research [3], young Vietnamese customers took actions in responding to green marketing and toward a greener behaviour. Most are aware of the importance of keeping green, maintain a healthy environment and find it meaningful both for themselves and the society. Market surveys showed that in the process of becoming a more environmentally friendly and ecologically responsible consumer, primary problems that might stop them from using eco-friendly products more frequently include the following: 43% of the respondents expressed eco-friendly products are expensive, 27% of the respondents stated that eco-friendly products are not convenient to buy, 14% of them found it difficult to change current habits/behaviours, 6% didn't believe that eco-products can make any impact on the environment, 5% stated that campaigns did not create enough affects and the communication message is inconclusive and the last 2% expressed that none of their friends/family use eco-friendly products. Previous study pointed out that Hanoi people seem to be the most enthusiastic to be involved in activities for a green planet.

According to Huong [10], Vietnamese people are starting to pay more attention to environmental issues. The difficulty and barriers to green purchasing in private sector of Vietnam may come from different background [10-11] including:

1. Cultural and economic development; e.g. consumers are used to buying cheap products or imitation products on the street;
2. Green purchasing is only at the embryonic stage in Vietnam, so it takes time to build up awareness

and allow promotion to get to the general public and organizations;

3. Support from top management in enterprises, government and consumer is weak and takes time to build up.

Despite these barriers of going green, Vietnamese consumers still welcome the idea and were willing to turn encouragement to actions [3]. Survey showed that a majority of Gen Z (15-24 year old) demonstrated a great deal of support to green business through different activities on social media platform, while Gen Y (25-38 years old) endorsed businesses that are environmentally friendly by spending more money on brand and purchase from the brand more regularly. It is estimated that green purchasing is getting popular in Vietnam and the market for buying green products is emerging dramatically.

Correspondingly, further studies in the field of green purchasing should be conducted in Vietnam to explore internal and external factors that influence on consumer green purchasing behaviour.

2.3. Green Purchase Intention

Purchase intention is a critical factor to predict consumer behaviour [12]. Consumer intention has been used as a proxy for actual behaviour [13]. Green purchase intention is defined as the willingness of a person to give preference to products having eco-friendly features over other traditional counterparts in their purchase considerations. Chan [14-15] defined green purchase as a specific kind of eco-friendly behaviour that consumers perform to express their concern to environment.

There have been few studies conducted on green purchasing behaviour [16-18]. Lee [19] pointed out that green marketing studies in Asian countries were relatively few in comparing to Western countries. Chan and Lau [20] developed a conceptualized model consisted of environmental concern, environmental knowledge, green purchase intention, actual purchase behaviour and nature orientation. Their study suggests that actual green purchase behaviour was highly dependent on a person's green purchase intention.

Researchers [17] has enhanced the understanding of green purchasers' profile in Malaysia. They examined the predictors of intention to purchase green products. The more consumers were engrossed with individual consequences of purchasing green products as making an extra effort to recycle, perceived inconvenience of the product and additional cost involved, the less they would want to buy this product [13,17]. Study in Malaysia showed that environmental consequences did not

have a significant relationship with green product purchase intention which was in-consistent with Follows and Jobber's study [13] conducted in the North American – European setting.

Studies [17] found that self-enhancement values are positively related to the attitudinal measure of individual consequences, but are negatively related to purchase intention of green products. This finding was consistent with that of Follows and Jobber [13].

2.4. Environmental Attitude

Schultz, Shriver, Tabanico and Khazian [21] stated that environmental attitude as “the collection of beliefs, affect, and behavioural intentions a person holds regarding environmentally related activities or issues”. Attitudes do not determine behaviour directly, rather they influence behavioural intentions which in turn shape our actions [22]. Many studies were conducted to understand the relationship between environmental attitudes and related issues. Studies supported positive relationship between environmental attitudes and green purchase intention in different cultures, such as Asian, US, and European, and in different product categories, including organic food, timber-based products, organic products and environmental friendly vehicles. Studies showed that consumers' green purchase attitude were significantly related to their green purchase intention [14,16,19,23-24]. However, findings from study in Malaysia showed that environmental attitude did not necessary influence consumer purchase intention of green products. As they may not fully aware on the availability of the alternatives to non-green products in the market [18, 25]. Based on the previously cited empirical literatures, the following hypothesis is proposed:

Hypothesis H1: Environmental Attitudes has a positive influence on green purchase intention.

2.5. Perceived Consumer Effectiveness

Perceived Consumer Effectiveness (PCE) refers to the extent to which individuals believe that their actions make a difference in solving a problem [26]. PCE differs from an attitude that reflects an evaluation of an issue. It was found to have a direct and positive relationship with environmental attitudes [27]. Initially, PCE was measured as an element of personality variable to predict ecological concern [28]. Kinnear, Taylor and Ahmed [28] described PCE as a measure of individual belief that he or she is an effective contributor to pollution abatement. Ellen, Weiner, and Cobb-Walgreen [26] distinguished the measure of PCE from environmental concern and highlighted its

predicting power on certain pro-environmental behaviour. Ellen et al. [26] reported that PCE was found to be a significant contributor to the purchase of ecologically safe products.

In 2011, Kim [29] examined the moderating effect of PCE on the attitude-behaviour relationship of personal pro-environmental behaviour. Findings suggested that in general, subjects with high level of PCE showed higher attitude-behaviour relationship than those with low level of PCE and the relationship seems to be behaviour specific. PCE was found to have greater impact on the behavioural measure that represents specific acts of personal responsibility, such as energy saving, green purchasing, and recycling behaviour [25,27,29]. PCE was distinguished from other variables such as environmental attitude. In short, several past researchers have confirmed the moderating roles of PCE between attitude and behaviour [24,27,30]. Based on previously discussion, this study hypothesizes:

Hypothesis H2a: Perceived consumer effectiveness has a positive influence on green purchase intention.

Hypothesis H2b: The effect of environmental attitudes on green purchase intention will be stronger with higher degrees of Perceived Consumer Effectiveness.

2.6. Willingness-to-Pay More

In general, green products are priced higher than conventional non-green products due to higher cost incurred in the operation processes, special raw materials used and to certain extent the cost involved in getting a green certified on the products. Price is always considered as an important factor in making purchasing decision. Consumers were willing to pay for premium price on products that carry certification whilst were not so for a product that is self-declared green by the company [31]. Barnard and Mitra [31] found that only 13% of respondents would be willing to pay above a 10% premium for eco-labelled products while about 27% aren't willing to pay a higher price for a more environmentally friendly product over a non-eco-labelled one.

Consumers' perceived green products as more expensive than conventional ones. According to Chyong et al. [32] price of green product was not the main factor that stops consumers from buying if they were with pro-environment attitude. However, for a group of price sensitive green consumers, those who are aware of the impact of non-green products to the environment yet inherently price sensitive, they tended not willing to pay premium for environmentally friendly products [33].

Chan [34] examined the effect of price factor towards consumer who were intended to make green product purchasing decision. The moderating role of consumer willingness to-pay-more only impacted the influence of environmental attitudes to purchase intention. The study by Chyong et al. [32] on consumer willingness-to-pay more for green product in Kota Kinabalu, found that there were correlation between environmental attitudes and willingness-to-pay more for green products.

Chan [34] discovered that level of environmental attitudes driven purchase intention was found by two different groups of respondents: (a) respondents that were price sensitive and not willing to pay for additional price charged for green products, (b) respondents that accepted the price gap and were willing-to-pay for green products. The rate of changes in purchase intention for each incremental change on the environmental attitudes is higher for the first group as compared to the latter group. This means that respondents that were price sensitive needed to have higher level of environmental attitudes in order to drive them for higher purchase intention. Hence, consumer willingness-to-pay-more for green products influence consumer environment attitudes driven purchase intention to green products.

Therefore, the following hypotheses are proposed:

Hypothesis H3a: Willingness to pay more has a positive influence on green purchase intention.

Hypothesis H3b: The effect of environmental attitude on green purchase intention is weaker with higher degrees of willingness to pay more.

2.7. Environmental Involvement

Researchers define involvement as a "causal or motivating variable with a number of consequences on the consumer's purchase and communication variable" such as decision making, interest in advertising, brand commitment and frequency of product usage [35].

A common definition of involvement had been conceptualized as the construct in terms of "perceived personal relevance" [36], where, "a consumer's level of involvement with an object, situation or action is determined by the degree to which s/he perceives that concept to be personally relevant" [37]. The level of personal relevance or importance with an object is represented by the perceived linkage between an individual's needs, goals, and values (self-knowledge) and their product knowledge (attributes and benefits). To the extent that product characteristics are associated with personal goals and values, the consumer will experience strong feelings of personal relevance or

involvement with the product. In other words, the more the issue or object becomes integrated with the individual's values, the higher the level of involvement [38]. Therefore, in order to accurately reflect the experiential nature of this construct, Celsi and Olson [37] suggest the term "felt involvement" and propose that the feeling of personal relevance is an outcome of both individual characteristics and the situational context and is only experienced at certain times and situations.

Studies [30] suggested that an individual who is an advocate and believer of environmental protection (i.e. experiences a high level of involvement with the environment) would experience low levels of attitude-behaviour inconsistency and would more likely to purchase a "green" product than an individual who is not. Hence, low involvement consumers will display higher levels of attitude-behaviour inconsistency. High involvement consumers will display higher levels of attitude-behaviour consistency. Based on the above discussion, this study hypothesizes the following:

Hypothesis H4a: Environmental involvement has a positive influence on green purchase intention.

Hypothesis H4b: The effect of environmental attitudes on green purchase intention will be weaker with higher degrees of Environmental involvement.

2.8. External moderators

Kollmuss and Agyema [39] highlighted that pro-environmental behaviour was more likely to occur if the necessary infrastructure was provided (e.g. recycling, taking public transportation). These barriers (e.g. lack of public transportation) can be overcome primarily through people's actions as citizens (indirect environmental actions). Bonini and Oppenheim [40] suggested that low availability of green products might impede green consumer behaviour. Companies with successful green products ensure that they are available and easy to find.

Because consumers are largely unaware of green products, business providers must see

themselves first as educator. This lack of knowledge means that companies must explain not only their own products but also the larger issues of pollution, climate change, overfishing, and other environmental problems. Non-profits and government agencies should also take up the cause of green education [40]. Energy Star provides an example. This program, a joint effort launched by the EPA and the US Department of Energy in 1992, educates consumers about the way suitable products can cut energy use, save consumers money, and protect the environment. P&G's Future Friendly campaign provides consumers with specific tips on how they can have a positive impact on the environment by making their homes more energy efficient, using less water, and reducing household waste. A number of environmental non-profits, including the Water wise Project, Waste Watch, Energy Saving Trust, and Global Cool endorse this information. The campaign's print, television, and online messages tell consumers not only what they can do to protect the environment but also how P&G's energy-efficient products can help them do so. P&G benefits because it refreshes its brand, enhances its reputation, and protects its market share from new green competitors. The campaign didn't pick up steam until 2007, so its impact on sales is not yet conclusive [40].

Zhao et al. [41] found that external moderators including available of green products and promotion of government and enterprises have influenced to green purchase intention. Thus, this study proposed:

Hypothesis H5a: External Moderators has a positive influence on green purchase intention.

Hypothesis H5b: The effect of environmental attitudes on green purchase intention will be weaker with higher degrees of External Moderators.

Based on the above discussion, this study hypothesizes the conceptual model shown in Figure 1 below.

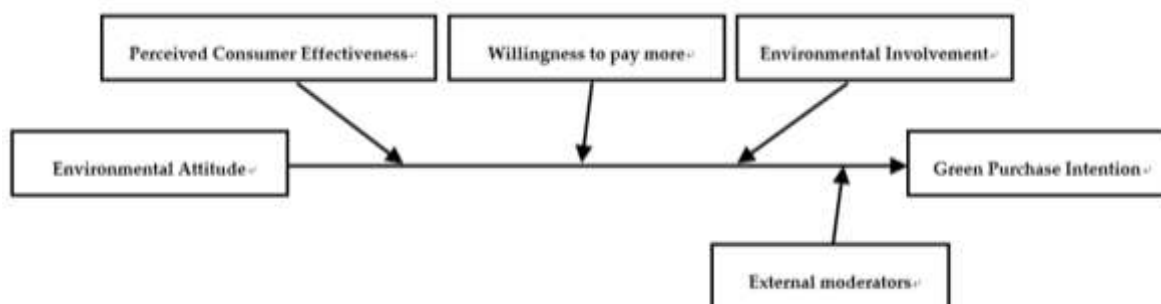


Figure 1. Proposed conceptual model.

III. METHODOLOGY

In this study, the sample for questionnaires was based on convenience sampling. Convenience sampling is the easiest way to collect data, and the selection process for required sample size can make until the sample size is ready for the analysis. The structured questionnaire is distributed to customers in three big cities in the North, the Middle and the South of Vietnam including Hanoi, Da Nang and Ho Chi Minh City respectively. Data was collected by collectors who stood in front of supermarkets and ask customers who go shopping to answer the questionnaires. Research aims to collect 400 respondents.

A questionnaire consisting of two sections was used to collect data. The constructs were measured with previously validated scales following prior studies [19-20,24,29,41-43] as shown in Table 1. The first section investigated the six variables included in the proposed research model (i.e., environmental attitude, green purchase intention, perceived consumer effectiveness, willingness-to-pay more, environmental involvement and external moderators). Variable attributes were measured on a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree). The second section measured demographic characteristics (i.e., gender, age group, education level, occupation, residence and monthly personal income).

Table 1. Constructs and measurement.

Constructs	Measurement	Sources
Environmental attitude	7-item scale	Lee [19]
Green purchase intention	3-item scale	Chan and Lau [20]
Perceived consumer effectiveness	3-item scale	Berger and Corbin[24], Kim[29]
Willingness-to-pay more	3-item scale	Laroche et al. [42]
Environmental Involvement	3-item scale	Ajzen [4] and Chen and Chan [43].
External Moderators	3-item scale	Zhao et al. [41]

The current study used SPSS 25 to analyze the data. Firstly, the reliability and validity tests of measurement scales were shown and explained. This depicts the results of factor loading, the evaluation of the item-to-total correlation, cumulative explanation, and Cronbach's Alpha. Next, descriptive analysis was done to report on the respondents including the results of the measurement variables. After the assessment of the adequacy of the measurement model, hierarchical multiple regression would be conducted to test the hypotheses.

IV. RESULTS

4.1. Sample Characteristics

A total of 358 effective questionnaires were collected. Detailed demographic characteristics of

the respondents in this study are presented in Table 2. The majority of the respondents were female (63.7%), aged between under 21 to 30 years-old (88.5%). In addition, geographically wise, the respondents was composed of 7.5% from the northern part (Hanoi), 37.4% from centre part (Da Nang) and 55.0% from southern part (Ho Chi Minh City) of Vietnam. In term of education level, majority of the respondents received university or colleges education (72.6%). They were students (59.2%) or professional who worked in business (17.8%), education (13.4%), others (9.2%), service (3.1%), manufacturing (2.8%), freelance (2%), government (1.7%) and military and police (0.8). Among the respondents, 50.3% had monthly income under \$250, 43.9% from \$250-500. Only 1.1% of respondents made monthly income over \$2,000.

Table 2. Demographic characteristics of the respondents.

Description	Frequency	Percent	
Gender	Male	130	36.3
	Female	228	63.7
Age group	Under 20	193	53.9
	21-30	124	34.6
	31-40	18	5.0
	41-50	13	3.6
	Above 51	10	2.8
Education	Lower high school	8	2.2

	High school graduate	90	25.1
	Vocational school and some colleges	28	7.8
	College graduate	167	46.6
	Graduate degree	65	18.2
Occupation	Student	212	59.2
	Manufacturing	10	2.8
	Education	48	13.4
	Service	11	3.1
	Business	28	7.8
	Military and police	3	0.8
	Government	6	1.7
	Freelance	7	2.0
	Others	33	9.2
Residence	Northern part	27	7.5
	Central part	134	37.4
	Southern part	197	55.0
Income	Under 250 USD	268	74.9
	250-500 USD	77	21.5
	500-1000 USD	9	2.5
	Over 1000 USD	4	1.1

4.2. Descriptive Statistics and Construct Reliability and Validity

Table 3 shows the results of the descriptive statistics including mean and standard deviation, and

reliability coefficient values. The Cronbach's Alpha (α) values ranging from 0.85 to 0.65. Generally, the Cronbach's Alpha value from 0.60 to 0.80 is acceptable [44], more than 0.80 is good.

Table 3. Items and properties.

Variables and Items	FLs	Mean	SD	α
Environmental attitude		6.58	0.63	0.76
It is essential to promote green living in Vietnam.	0.92			
I strongly agree that more environmental protection works are needed in Vietnam.	0.94			
It is very important to raise environmental awareness among Vietnamese.	0.89			
Environmental protection works are simply a waste of money and resources.(R)	0.70			
Environmental protection issues are none of my business. (R)	0.79			
I think environmental protection is meaningless. (R)	0.82			
It is unwise for Vietnam to spend a vast amount of money on promoting environmental protection. (R)	0.71			
Green purchase intention		5.25	1.21	0.84
Over the next month, I will consider buying green products.	0.85			
Over the next month, I will consider switching to other brands for ecological reasons.	0.89			
Over the next month, I plan to switch to a green version of a product.	0.89			
Perceived consumer effectiveness		5.70	0.98	0.68
I feel capable of helping solve the environmental problems.	0.78			

I can protect the environment by buying products that are friendly to the environment.	0.76			
I feel I can help solve natural resource problems by conserving water and energy.	0.80			
Willingness-to-pay more		4.67	1.48	0.85
It is acceptable to pay 10% more for products that are produced, processed, and packaged in an environmentally friendly way.	0.87			
I would accept paying 10% more taxes to pay for an environmental clean-up program.	0.92			
I would be willing to spend an extra \$10 a week in order to buy less environmentally harmful products.	0.84			
Environmental involvement		6.42	0.90	0.85
Environment to me matters	0.88			
Environment to me is significant	0.91			
Environment to me means a lot.	0.86			
External moderators		4.97	1.17	0.64
The publicity campaign of green products has effect on my purchasing.	0.77			
The awareness of government will promote me to care about environment protection.	0.81			
I can buy green products with great convenience.	0.72			

These findings suggested a good internal consistency of reliability for all construct measures. To validate the developed constructs, the research model was estimated with CFA. In the testing model, all factor loadings were significant ($p < 0.000$), ranging from 0.92 to 0.70 (Table 3). They thus met the threshold set by Hair et al. [45], indicating convergent validity at the item level. [44].

4.3. Regression Analysis

4.3.1. Main Effects

In predicting green purchasing intention, excluding the interaction effect, multiple regression was conducted. This test was established in observing the relationship among Green Purchase Intention (GPI) and five independent variables

including Environmental Attitude (EA), Perceived Consumer Effectiveness (PCE), Willingness-to-pay more (WTP), Environmental Involvement (EI) and External Moderators (EM) variables. As shown in the Table 4. The model's coefficient of determination or R square ($R^2 = 0.494$) obtained indicates that 49.4% regression model of Green Purchase Intention function can be explained by Environmental Attitude (EA), Perceived Consumer Effectiveness (PCE), Willingness-to-pay more (WPM), Environmental Involvement (EI), External Moderators (EM), while the remaining 50.6% are explained by other variables out of this model. Adjusted $R^2 = .487$ with estimated standard error 0.86330. Additionally, Durbin-Watson value (2.011) indicates that there is no auto-correlation among the variables.

Table 4. Testing Results of Main Effects of Consumer Green Purchase Intention.

	Unstandardized Coefficients		Standardized Coefficients		Sig.	Hypothesis Testing
	B	Std. Error	β	t		
(Constant)	-	0.518		-2.132	0.034	
EA	0.183	0.079	0.096	2.323	0.021	H1 Supported
PCE	0.312	0.060	0.253	5.232	0.000	H2a Supported
WPM	0.258	0.036	0.316	7.267	0.000	H3a Supported
EI	0.192	0.059	0.143	3.236	0.001	H4a Supported
EM	0.188	0.044	0.182	4.273	0.000	H5a Supported
				R^2	Adjusted R^2	
				0.494	0.487	

Furthermore, the ANOVA is used to investigate the significance of the result. The null hypothesis where multiple R in the population is 0, was examined in this analysis. The result of this study presents sig = 0.00 indicating $P < 0.05$. The results of tolerance and VIF value were displayed in Table 5. As depicted in Table 5, tolerance values range from 0.612 to 0.840 are greater than 0.10. The values of VIF are less than 5. Hence, the multi-collinearity assumption is not violated (Hair et al, 2003)[45]. Based on the finding from Table 4, the p value of the environmental attitude ($p = 0.021$) is less than 0.05. Therefore, the research concludes that environmental attitude is positively related to the green purchase intention. Hypothesis 1 is supported. In addition, the result from Table 4-13 indicated that the p value for the perceived consumer effectiveness, willingness to pay more, environmental involvement and external moderator ($p = 0.000$) are also less than the alpha value of 0.05. Therefore, it can be suggested that those variables are positively related to green purchase intention. Hypothesis 2a, 3a, 4a, 5a, are therefore supported. Based on the SPSS output, the following multiple regression equation was formed:

$$\text{GPI} = -1.104 + 0.183 \cdot \text{EA} + 0.312 \cdot \text{PCE} + 0.258 \cdot \text{WTP} + 0.192 \cdot \text{EI} + 0.188 \cdot \text{EM} \quad (1)$$

The values of Unstandardized Beta Coefficient among the independent variables ranged from the weakest significant relationship of 0.183 (between environmental attitude and green purchase intention) to the strongest significant relationship of 0.312 (between perceived consumer effectiveness and green purchase intention). It is concluded that “perceived consumer effectiveness” is the most powerful antecedent of green purchase intention. “Willingness-to-pay more” (0.258), “environmental involvement” (0.192), “external moderators” (0.188) are ranked the second, third and fourth respectively in terms of importance of antecedents to the green purchase intention. In addition, Standardized Coefficients explains the intensity among variables. Variables are ranked as following based on intensity: willingness to pay more (beta = 0.316), perceived consumer effectiveness (beta = 0.253), external moderators (beta = 0.182), environmental involvement (beta = 0.143), environmental attitude (beta = 0.096).

Table 5. Tolerance and VIF value.

Model	Correlations			Collinearity Statistics	
	Zero-order	Partial	Part	Tolerance	VIF
(Constant)					
EA	0.349	0.123	0.088	0.840	1.190
PCE	0.568	0.269	0.198	0.612	1.635
WPM	0.551	0.361	0.275	0.761	1.315
EI	0.426	0.170	0.123	0.737	1.357
EM	0.451	0.222	0.162	0.792	1.263

4.3.2. Two-way Interaction effects

In testing the moderation effect of perceived consumer effectiveness, willingness-to-pay-more, environmental involvement, external moderators on the relationship between environmental attitude and green purchase intention, four separate hierarchical multiple regression were conducted for each moderator. In each regression analysis, green purchase intention was the criterion, environmental attitude was entered first with perceived consumer effectiveness, willingness to pay more, environmental involvement, external moderators respectively (step one) and interaction effect (EAxPCE, EAxWPM, EAxEM, EAxEI) was entered second (step two). To avoid potentially problematic high multi-collinearity with the interaction term, the variables were centred before the interaction terms were computed. To gain a better understanding of the interaction effects, all

significant interactions were plotted according to the method outlined by Aiken and West [46]. The following table 6 is the summary of results from testing.

1. Testing the moderating effect of perceived consumer effectiveness on the relationship between environmental attitude and green purchase intention

Based on table 5, hierarchy multiple regression was performed to test the interaction between environmental and perceived consumer effectiveness as predictor of green purchase intention. The raw score regression coefficient for this product term was $b = 0.025$ with $t = 0.435$, p -value = 0.664 (> 0.1). The result was not statistically significant. It means that perceived consumer effectiveness cannot enhance the effect of environmental attitude on green purchase intention. Therefore, the hypothesis 2b was not supported.

2. Testing the moderating effect of willingness to pay more on the relationship between environmental attitude and green purchase intention

To test the hypothesis 3b that the effect of environmental attitude on green purchase intention will be weaker with higher degrees of willingness to pay more, a hierarchical multiple regression analysis was conducted. In the first step, two variables were included: environmental attitude and willingness to pay more. These variables accounted for a significant amount of variance in green purchase intention. To avoid potentially problematic high multi-collinearity with the interaction term, the variables were centered and an interaction term between environmental attitude and green purchase intention was created [46]. Next, the interaction term between environmental attitude and willingness-to-pay more was added to the regression model, which accounted for a significant proportion of the variance in green purchase intention, $R^2 = 0.351$, Adjusted $R^2 = 0.345$, $\Delta R^2 = 0.006$ p -value = 0.034, $b = -0.087$, $t = -1.863$, $p = 0.063 < 0.1$. Examination of the interaction plot showed the willingness of consumer to pay more for green products is influencing the intention of consumer that driven by the environmental attitudes when come to purchasing of green product. At low environmental attitude, green purchase intention was similar for willingness to pay's high level. In short, hypothesis H3b was supported.

3. Testing the moderating effect of environmental involvement on the relationship between environmental attitude and green purchase intention

The hypothesis 4b that the effect of environmental attitudes on green purchase intention

will be weaker with higher degrees of Environmental Involvement was tested by the same hierarchical multiple regression analysis. In the first step, two variables were included: environmental attitude and environmental involvement. Next, the interaction term between environmental attitude and Environmental Involvement was added to the regression model, which accounted for a significant proportion of the variance in green purchase intention, $R^2 = 0.244$, Adjusted $R^2 = 0.238$, $\Delta R^2 = 0.013 > 0$, p -value = 0.016 < 0.05 , $b = -0.128$, $t = -2.424$, $p = 0.016 < 0.05$, significant. The results showed the environmental involvement to pay more for green products is influencing the intention of consumer that driven by the environmental attitudes when come to purchasing of green product. In short, hypothesis H4b was supported.

4. Testing the moderating effect of External Moderators on the relationship between environmental attitude and green purchase intention

The hypothesis 5b is "The effect of environmental attitudes on green purchase intention will be stronger with lower degrees of External Moderators". It was tested by the same hierarchical multiple regression analysis in first step, two variables were included: environmental attitude and External Moderators. Next, the interaction term between environmental attitude and External Moderators was entered second model. In the moderated regression model: $R^2 = 0.278$, Adjusted $R^2 = 0.272$, $\Delta R^2 = 0.009$, p -value = 0.034 and for interaction EAxEM, $b = -0.098$, $t = -2.124$, $p = 0.034 < 0.05$, the influencing of interaction EAxEM was significant. It means hypothesis H5b was supported.

Table 6. Two way interaction Hierarchical Multiple Regression.

Model/ Variables		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
Test Interaction effect EAxPCE						
R Square = 0.356, Adjusted R Square = 0.350, R Square change = 0.000, p-value = 0.664						
1	(Constant)	5.243	.053		99.802	.000
	EA	.374	.089	.196	4.198	.000
	PCE	.631	.056	.513	11.208	.000
	InteractionEAxPCE	.025	.057	.020	.435	.664
Test Interaction EAxWPM						
R Square = 0.351, Adjusted R Square = 0.345, R Square change = 0.006, p-value = 0.063						
2	(Constant)	5.269	.053		99.771	.000
	EA	.352	.089	.184	3.935	.000

	WPM	.388	.037	.475	10.446	.000
	InteractionEAXWPM	-.082	.044	-.087	-1.863	.063
Test Interaction EAxEI						
R Square =0.244, Adjusted R Square= 0.238, R Square change = 0.013, p-value= 0.016						
3	(Constant)	5.281	.057		92.220	.000
	EA	.356	.101	.187	3.526	.000
	EI	.440	.067	.328	6.596	.000
	Interaction EAxEI	-.182	.075	-.128	-2.424	.016
Test Interaction EAxEM						
R Square =0.278, Adjusted R Square= 0.272, R Square change = 0.009, p-value= 0.034						
4	(Constant)	5.271	.056		94.978	.000
	EA	.466	.090	.244	5.197	.000
	EI	.404	.048	.391	8.438	.000
	Interaction EAxEM	-.147	.069	-.098	-2.124	.034

V. DISCUSSION

Result indicated that environmental attitude significant influence green purchase intention. This means that consumers green purchase intention is facilitated by the positive attitude of consumers towards the environment. Finding was consistent with the previous results [27,47-48] . Summary of hypothesis testing results are presented in Table 7.Hypothesis 2a was supported in which PCE was significantly related to green purchase intention. It means that

respondents who were engaged in buying environmentally friendly products do so because they believed that their actions or efforts of purchasing such products were able to help minimize the environment from further deterioration. Additionally, consumers who have greater degree of perceived consumer effectiveness they exhibit higher degree of green purchasing intention. [24,26,27,29]. Besides acting as a predictor, several researchers had also confirmed its moderating roles between attitude and behaviour [26,29-30].

Table 7. Summary of hypothesis testing results.

Hypothesis	Description	Results
H1	Environmental Attitudes has a positive influence on green purchase intention.	Supported
H2a	Perceived consumer effectiveness has a positive influence on green purchase intention.	Supported
H2b	The effect of environmental attitudes on green purchase intention will be stronger with higher degrees of Perceived Consumer Effectiveness.	Not supported
H3a	Willingness to pay more has a positive influence on green purchase intention.	Supported
H3b	The effect of environmental attitude on green purchase intention will be weaker with higher degrees of willingness to pay more.	Supported
H4a	Environmental involvement has a positive influence on green purchase intention.	Supported
H4b	The effect of environmental attitudes on green purchase intention will be weaker with higher degrees of Environmental Involvement.	Supported
H5a	External Moderators has a positive influence on green purchase intention.	Supported
H5b	The effect of environmental attitudes on green purchase intention will be weaker with higher degrees of External Moderators.	Supported

Hypothesis 3a was supported in this study. It means willingness to pay more has positive effect on green purchase intention. Because the price of green products are higher than conventional ones, customers have to pay more for green products. It is the reason why price is one of the barriers that refrain customer from purchasing green product. As a result, if customers have higher degree of willingness-to-pay more, they will have stronger intention to purchasing green products. This result is consistent with the result by Chan [49].

The positive relationship between green purchase intention and environmental involvement was established. It means low environmentally involved customers display low level of green purchase intention; while high environmentally involved customer would display high level of green purchase intention. This finding is consistent with the study by Gupta and Ogden [30].

External moderators including promotion of government and enterprise as well as availability of green products have positive relationship with green purchase intention. It means that the more green products are available, the more purchase intention customer have. In facts, there is a few version of green product beside sensitive products in the market. Customer can access sensitive products easier than green products because they appear everywhere, at super market, or stores. Moreover, the more pro-motion programs or events government and enterprise have, the more purchase intention customers have. This result is consistent with the study by Zhao et al. [41].

Despite some mixed results regarding the attitude-intention relationship, firstly, this study examined whether the relationship between environmental attitude and green purchase intention could be moderated by consumers' PCE. However, the moderating effect by PCE was not found. That is, the influence of environmental attitudes on green purchasing intention was not influenced by subjects' PCE level. Literature review indicated that PCE, a domain-specific belief that the efforts of an individual can make a difference in the solution to a problem, has not predicted consistently a wide variety of environmental behaviours [26]. A consumer's beliefs that an environmental problem can be solved by a specific action might be important in increasing the performance of the specific action. That is, the role of PCE can be affected by targeted actions. Kim [29] also found that PCE did not enhance the prediction of green buying behaviour by environmental attitude at all.

Second, this study tested moderating role of willingness-to-pay more on encouragement to effect of environmental attitude on green purchase intention. This moderating role was found, consistent with some previous studies. The study by Chyong et al. [32] on willingness of consumer to pay more for green product in Kota Kinabalu, found that there are correlation between environmental attitudes and willingness to pay more for green products. Ling [50] showed that level of purchase intention that driven by the environmental attitudes is influenced by willingness to pay more.

Thirdly, Gupta and Ogden [30] argued that a high level of involvement with the environment or a specific environmental issue would bridge the attitude-behaviour gap green products. Therefore, for an individual who is significantly involved with environmental issues would solicit positive green attitudes and purchase intent. On the other hand, a low level of involvement with environmental issues, i.e. water quality protection would not benefit a product that promises to reduce water pollution by triggering a positive attitude and purchase intent. Gupta and Ogden [30] proposed the moderating influence of level of involvement and perceived consumer effectiveness on the attitude behaviour link. Based on present study results, the moderating effect of environmental involvement on relationship between environmental attitude and green purchase intention was found. If customers have low environmental attitude but high involvement with environmental problems, they would show high level of green purchase intention.

Finally, the moderating role of external moderator has interaction with environmental attitude was supported. This finding is consistent with study by Zhao et al. [41]. They found that external moderators including promotion of government and enterprise and availability of green products are predictors of green consumer behaviour.

VI. CONCLUSIONS

Green consumption, green marketing as well as green consumer behaviour is relatively a newer concept in Vietnam compare to western developed countries. The pre-sent study is a good opportunity for academia and the industry to identify various significant factors that influence green purchasing intention among young Vietnamese consumers. Moreover, this study also contribute Vietnam evidence to the gap theory. Specifically, the results indicate that perceived consumer effectiveness is a strong predictor of

green purchase intention, but when tested with environmental attitude, it fail to affect the influence of environmental attitude to green purchase intention. Green purchase intention is found to be determined by environmental attitude, perceived consumer effectiveness, willingness-to-pay more, environmental involvement and external moderators at different degrees. As evident in this study, intention toward green purchases is much more heavily predicted by perceived consumer effectiveness than environmental attitude. For both the Vietnamese government and green marketers operating in Vietnam, these findings point to the superiority of employing perceived consumer effectiveness rather than environmental attitude as a predictor for green purchase intention. The willingness of consumers to pay for the premium price gap between green and non-green products was found significant as a moderator for the relationship of environmental attitudes and green purchase intention.

For marketers, this research contributed to the knowledge of marketers towards identifying significant psychographic and behaviour to be employed in their marketing strategies to enable them to increase their sale. Furthermore, marketers would be able to refine and redefine their segmentation by identifying their significant target markets and how to attract them more effectively to the green products. Based on the present study, perceived consumer effectiveness, willingness-to-pay more, environmental involvement, the availability of green product, and environmental attitudes are predictors of consumer green purchase intention. Businesses should take up the cause of green education, enhance the perceived consumer effectiveness by increasing the levels of the consumers' confidence in his ability to contribute to the environmental problems. In terms of product promotion, the arousal of the consideration for the nature and environment would be useful in selling ecologically safe products. The two most popular and effective channels communicating environmental issues to the public are television and the Internet, which draw visible and vivid pictures of the true environmental problems all around the world to appeal the general public. On the contrary, very few respondents get information about environmental issues from descriptions on any product [11]. The availability of green product is also important. Businesses are encouraged to supply green products through different channels online and offline. If consumer can find green products as easily as conventional products they will be interested in buying green product. Findings support that PCE is a strong predictor on

purchasing green products. As these consumers only moderately believe that one person can make a difference. Therefore, it would be helpful for companies to prioritize their resources in areas that will stimulate potential consumers' perceived consumer effectiveness. Such as holding advertising and awareness campaigns to convince consumers that their action in purchasing green products would make a difference in improving the environment from further deterioration. Consumers need to feel that their contribution matters to mitigate the environmental pollution, in order to contribute in purchasing green products. Increasing their involvement could lead them to display more effort to search for the availability of green products.

In view of these previous findings and those of the present study, it is suggested that the Vietnamese government should further strengthen its environmental education to better equip citizens in how to discern between genuine and false environmental claims. The government also should have more effort on promotion the environmental problems and the value of protect environment by events, programs as well as campaigns. Consumer will be influenced by those actions and leads to intend buy green products or at least enhance the green purchase intention through environmental attitude.

REFERENCES

- [1]. Nguyen, L.H. From Green Marketing to Sustainable Marketing in Vietnam: Policies and Practices. *International Journal of Trend in Scientific Research and Development (ijtsrd)* 2021, 6(1), 7-13.
- [2]. Vietnam Briefing. Vietnam approves long term strategy on environmental protection: Decision 450 Retrieved from <https://www.vietnam-briefing.com/news/vietnam-approves-long-term-strategy-on-environmental-protection-decision-450.html/>. (2022)
- [3]. Viettrack Marketing Research. The trend of going green. Retrieved from <https://intage.com.vn/3/> (2019)
- [4]. Ajzen, I. The theory of planned behavior. *Organizational behavior and human decision processes* 1991, 50(2), 179-211.
- [5]. ElHaffar, G.; Durif, F.; Dube, L. Torward closing the attitude-intention-behavior gap in green consumption: A narrative review of the literature and an overview of future research directions. *J of Cleaner Production* 2020,275 (122556).

- [6]. Soonthonsmai, V. Environmental or green marketing as global competitive edge: Concept, synthesis, and implication. In EABR (Business) and ETLC (Teaching) Conference Proceeding, Venice, Italy, 2007.
- [7]. Renfro, L.A. Green business operations and green marketing. Gattton Student Research Publication 2010, 2(2), 1-8.
- [8]. Polonsky, M.J. An introduction to green marketing. *Electronic Green Journal* 1994, 1(2), 1-8.
- [9]. Mishra, P.; Sharma, P. Green marketing in India: Emerging opportunities and challenges. *Journal of Engineering, Science and Management Education* 2010, 3(1), 9-14.
- [10]. Huong, L.T. Green marketing in Vietnam-Situation and solutions. *IJAEM* 2022, 4(6), 2022-2028.
- [11]. Hái, H.V.; Mai, N.P. Environmental Awareness and Attitude of Vietnamese Consumers towards Green Purchasing, *VNU Journal of Economics and Business* 2013, 29(2), 129-141.
- [12]. Fishbein, M.; Ajzen, I. Belief, attitude, intention and behavior: An introduction to theory and research. *Marketing Management* 1975, 22(1), 11-18.
- [13]. Follows, S. B.; Jobber, D. Environmentally responsible purchase behaviour: A test of a consumer model. *European Journal Market* 2000, 34(1), 723-746.
- [14]. Chan, R.Y. Determinants of Chinese consumers' green purchase behavior. *Psychology and Marketing* 2001, 18(4), 389-413.
- [15]. Rashid, N.R.N.A. Awareness of eco-label in Malaysia's green marketing initiative. *International Journal of Business and Management* 2009, 4(8), 132.
- [16]. Mostafa, M.M. Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies* 2007, 31(3), 220-229.
- [17]. Ramayah, T.; Lee, J.W.C.; Mohamad, O. Green product purchase intention: Some insights from a developing country. *Resources, Conservation and Recycling* 2010, 54(12), 1419-1427.
- [18]. Tan, B. C. The roles of knowledge, threat, and PCE on green purchase behaviour. *Int'l J of Bus and Management* 2011, 6(12), 14.
- [19]. Lee, K. Opportunities for green marketing: young consumers. *Marketing intelligence and planning* 2008, 26(6), 573-586.
- [20]. Chan, R.Y.; Lau, L.B. Antecedents of green purchases: a survey in China. *Journal of Consumer Marketing* 2000, 17(4), 338-357.
- [21]. Schultz, P.W.; Shriver, C.; Tabanico, J.J. and Khazian A.M. Implicit connections with nature. *J of Env'IPsy* 2004, 24(1)31-42.
- [22]. Ajzen, I.; Fishbein, M. Understanding Attitudes and Predicting Social Behavior. *J of Experimental SocPsy* 1980, 22(1), 453-474.
- [23]. Sinnappan, P.; Rahman, A.A. Antecedents of green purchasing behavior among Malaysian consumers. *International Business Management* 2011, 5(3), 129-139.
- [24]. Berger, I. E.; Corbin, R.M. Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors. *Journal of Public Policy & Marketing* 1992, 11(2), 79-89.
- [25]. Tan, B. C.; Lau, T. C. Green Purchase Behavior: Examining the Influence of Green Environmental Attitude, Perceived Consumer Effectiveness and Specific Green Purchase Attitude. *Journal of Applied Sciences Research* 2011, 7(8), 24-32.
- [26]. Ellen, P. S.; Wiener, J.L.; Cathy Cobb-Walgren. The Role of Perceived Consumer Effectiveness in Motivating Environmentally Conscious Behaviors. *Journal of Public Policy and Marketing* 1991, 10(1), 102-117.
- [27]. Kim, Y.; Choi, S.M. Antecedents of Green Purchase Behaviour: An Examination of Collectivism, Environmental Concern and PCE. *Advances in Consumer Research* 2005, 32(1), 592-59.
- [28]. Kinnear, T. C.; Taylor, J. R. The effect of ecological concern on brand perceptions. *J of Marketing Research* 1973, 10(2), 191-197.
- [29]. Kim, Y. Understanding green purchase: The influence of collectivism, personal values and environmental attitudes, and the moderating effect of perceived consumer effectiveness. *Seoul Journal of Business* 2011, 17(1), 65-92.

- [30]. Gupta, S.; Ogden, D. The attitude-behavior gap in environmental consumerism. *APUBEF Proceedings* 2006, 3(1), 199-206.
- [31]. Barnard, E.; Mitra, A. A contingent valuation method to measure willingness to pay for eco-label products. *Econ Edu* 2010, 13(2), 5-6.
- [32]. Chyong, H.T.; Phang, G; Hasan, H.; Buncha, M.R. Going green: A study of consumers' willingness to pay for green products in Kota Kinabalu. *Int'l J of Buss and Society* 2006, 7(2), 40-54.
- [33]. D'Souza, C. ISO 14000 Standards: An environmental solution or a marketing opportunity? *Electronic Green J* 2004, 1(20), 2-5.
- [34]. Chan, R.Y.; Lau, L.B. Explaining green purchasing behavior: A cross-cultural study on American and Chinese consumers. *Journal of International Consumer Marketing* 2002, 14(3), 9-40.
- [35]. Laurent, G.; J. N. Kapferer. Measuring Consumer Involvement Profiles. *Journal of Marketing Research* 1985, 22(1), 41-53.
- [36]. Richins, M.L.; Bloch, P.H. After the New Wears off: The Temporal Context of Product Involvement. *Journal of Consumer Research* 1986, 13(1), 280-285.
- [37]. Celsi, R.L.; Olson J.C. The Role of Involvement in Attention and Comprehension Processes. *J of Consum Res* 1988, 15(1), 210-224.
- [38]. Mitchell, A.A. Involvement: A Potentially Important Mediator of Consumer Behavior. *Adv in Consumer Res* 1979, 6(1), 191-196.
- [39]. Kollmuss, A.; Agyeman, J. Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental education research* 2002, 8(3), 239-260.
- [40]. Bonini, S.M.; Oppenheim, J. M. Helping 'green' products grow. *The McKinsey Quarterly* 2008, 3(2), 1-8.
- [41]. Zhao, H.H.; Gao, Q.; Wu, Y.P.; Wang, Y.; Zhu, X.D. What affects green consumer behavior in China? A case study from Qingdao. *Elsevier.com*. Retrieved from <http://dx.doi.org/10.1016/j.jclepro.2013.05.021> (2013)
- [42]. Laroche, M.; Bergeron, J.; Barbaro-Forleo, G. Targeting consumers who are willing to pay more for environmentally friendly products. *J of consumer marketing* 2001, 18(6), 503-520.
- [43]. Chen, Y.S.; Chang, C.H. Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision* 2012, 50(3), 502-520.
- [44]. Fornell, C.; Larcker, D.F. Structural equation models with unobservable variables and measurement error: Algebra and statistics. *J. Mark. Res.* 1981, 18, 382-388.
- [45]. Hair J.F; Anderson R.E; Tatham R.L; Black W.C. *Multivariate Data Analysis* (6th ed.). New Jersey: Prentice Hall: Upper Saddle Rivers, NJ, USA, 2006.
- [46]. Aiken, L. S.; West, S. G. *Multiple regression: Testing and interpreting interactions*. SAGE Publication Inc.: California, 1991.
- [47]. Tilikidou, I. The effects of knowledge and attitudes upon Greeks' pro-environmental purchasing behaviour. *Corporate Social Responsibility and Environmental Management* 2007, 14(3), 121-134.
- [48]. Mei, O.J.; Ling, K.C.; Piew, T.H. The Antecedents of Green Purchase Intention among Malaysian Consumers. *Asian Soc Science* 2012, 8(13), 246-246.
- [49]. Chan, T.S. Concerns for environmental issues and consumer purchase preferences: a two country study. *J of Int'l Consumer Market* 1996, 9(1), 43-55.
- [50]. Ling, C.Y. Consumers' purchase intention of green products: an investigation of the drivers and moderating variable. *Marketing Management* 2013, 57(1), 14503-14509.